

**REMARKS**

In the Office Action dated July 13, 2006, the Examiner required restriction to one of the following inventions:

Group I: Claims 39-42, drawn to a DNA construct comprising a coding sequence for a Cuphea KAS factor A protein of SEQ ID NO:5, and one or more coding sequences for a plant medium chain thioesterase.

Group II: Claims 39-41, drawn to a DNA construct comprising a coding sequence for a Cuphea KAS factor A protein of SEQ ID NO:7, and one or more coding sequences for a plant medium chain thioesterase.

Group III: Claims 39-41, drawn to a DNA construct comprising a coding sequence for a Cuphea KAS factor A protein of SEQ ID NO:13, and one or more coding sequences for a plant medium chain thioesterase.

Group IV: Claims 39-41, drawn to a DNA construct comprising a coding sequence for a Cuphea KAS factor A protein of SEQ ID NO:15, and one or more coding sequences for a plant medium chain thioesterase.

Group V: Claim 43, drawn to a DNA construct comprising a coding sequence for a Cuphea KAS factor A protein and coding for Garcinia mangostana FatA1 thioesterase.

Group VI: Claims 45-53 and 112, drawn to a method for production of medium chain fatty acids in transgenic plant seeds:

Group VII: Claims 54-61, drawing to a method of altering medium-chain fatty acid composition enriched for C10 fatty acids.

Group VIII: Claims 54-60 and 62, drawn to a method of altering medium-chain fatty acid composition enriched for C 12 fatty acids.

Group IX: Claims 54-60, 63 and 64, drawn to a method of altering medium-chain fatty acid composition enriched for C 12 fatty acids and having a decrease in C14 fatty acids.

Group X: Claims 54-60 and 65, drawn to a method of increasing the ratio of C10 fatty acids to C8 fatty acids.

Group XI: Claims 54-60 and 66, drawn to a method of increasing the total content of C 10 fatty acids and C8 fatty acids.

Group XII: Claims 67-77, drawn to a transformed plant comprising a coding sequence for a thioesterase and a coding sequence for a KAS factor A protein of SEQ ID NO:5 encoding SEQ ID NO:6.

Group XIII: Claims 67-72, 74 and 77, drawn to a transformed plant comprising a coding sequence for a thioesterase and a coding sequence for a KAS factor A protein of SEQ ID NO:7.

Group XIV: Claims 67-72, 74 and 77, drawn to a transformed plant comprising a coding sequence for a thioesterase and a coding sequence for a KAS factor A protein of SEQ ID NO:13.

Group XV: Claims 67-72, 74 and 77, drawn to a transformed plant comprising a coding sequence for a thioesterase and a coding sequence for a KAS factor A protein of SEQ ID NO:15.

Group XVI: Claims 67, 77 and 78, drawn to a transformed plant comprising a coding sequence for a thioesterase and a coding sequence for a KAS factor A protein enriched for C12 fatty acids.

Group XVII: Claims 67, 77 and 78 drawn to a transformed plant comprising a coding sequence for a thioesterase and a coding sequence for a KAS factor A protein enriched for C12 fatty acids.

Group XVIII: Claims 67, 77, and 82, drawn to a transformed plant comprising a coding sequence for a thioesterase and a coding sequence for a KAS factor A protein having an increased ratio of C10 to C8 fatty acids.

Group XIX: Claims 67, 77, and 82, drawn to a transformed plant comprising a coding sequence for a thioesterase and a coding sequence for a KAS factor A protein having an increased ratio of C10 to C8 fatty acids.

Group XX: Claims 67, 77 and 83, drawn to a transformed plant comprising a coding sequence for a thioesterase and a coding sequence for a KAS factor A protein having an increased total content of C10 and C8 fatty acids.

Group XXI: Claims 84-86, drawn to a transformed plant comprising a *C. hookeriana* FatB2, a coding sequence for a *C. Pulcherrima* FatB1 and a coding sequence for a KAS factor A protein from *Cuphea* enriched for C10 Fatty acids.

Group XXII: Claims 84-86, drawn to a transformed plant comprising a *C. hookeriana* Fat B2, a coding sequence for a *C. pulcherrima* FatB1 and a coding sequence for a KAS factor A protein from *Cuphea* enriched for C10 fatty acids.

Group XXIII: Claims 84, 85 and 87, drawn to a transformed plant comprising a *C. hookeriana* FatB2, a coding sequence for a *C. pulcherrima* FatB1 and a coding sequence for a KAS factor A protein from *Cuphea* enriched for C12 Fatty acids.

Group XXIV: Claims 84, 85, 88 and 89, drawn to a transformed plant comprising a *C. hookeriana* FatB2, a coding sequence for a *C. pulcherrima* FatB1 and a coding sequence for a KAS factor A protein from *Cuphea* enriched for C12 fatty acids and having a decrease in C14 fatty acids.

Group XXI: Claims 84, 85 and 90, drawn to a transformed plant comprising a *C. hookeriana* FatB2, a coding sequence for a *C. pulcherrima* FatB1 and a coding sequence for a KAS factor A protein from *Cuphea* having an increase in total C10 and C8 fatty acids.

Group XXVI: Claims 92-95, drawn to an isolated polynucleotide of SEQ ID NO:13 encoding SEQ ID NO:14.

Group XXVII: Claims 96 and 97, drawn to a recombinant nucleic acid comprising a promoter and SEQ ID NO:13 in sense orientation.

Group XXVIII: Claims 96 and 97, drawn to a recombinant nucleic acid comprising a promoter and SEQ ID NO:13 in anti-sense orientation.

Group XXIX: Claims 98 and 99, drawn to a recombinant nucleic acid comprising a promoter and SEQ ID NO:13 in sense orientation and a delta-9 desaturase coding sequence.

Group XXX: Claims 98 and 99, drawn to a recombinant nucleic acid comprising a promoter and SEQ ID NO:13 in anti-sense orientation and a delta-9 desaturase coding sequence.

Group XXXI: Claims 100, 101 and 104, drawn to a host cell transformed with SEQ ID NO:13.

Group XXXII: Claims 100-111, drawn to a transgenic soybean plant or plant cell transformed with SEQ ID NO:13.

Group XXXIII: Claims 100-111, drawn to a transgenic corn plant or plant cell transformed with SEQ ID NO:13.

Applicants respectfully traverse the restriction requirement and provisionally elect the subject matter of Group VI, claims 45-53 and 112, drawn to a method for production of medium chain fatty acids in transgenic plant seeds, classified in class 800, subclass 281. However, Applicants submit that the Office has not proven that the search and examination of the entire application would impose an undue burden. Applicants submit that complete examination would be handled most expeditiously by treating all of the pending claims as a single entity. As MPEP §803 directs, “[i]f the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions.”

At least, Groups VI-XI should be should be examined simultaneously since all of these groups have the same class and subclass. The Examiner has not even made an allegation that these methods require the use of different materials or result in the production of different products but provides no evidence. Accordingly, examination of Groups VI-XI together would pose no undue burden on the Examiner.

In order to facilitate prosecution, however, Applicants have withdrawn claims 39-44 and 54-111 without prejudice or disclaimer to the subject matter disclosed therein by way of the present amendment. It is noted that these claims have been withdrawn as directed to a non-elected invention. Regardless, Applicants reserve the right to prosecute the non-elected invention in a continuing application. With this response, claim 112 has been amended without prejudice. As such, claims 39-112 are currently pending. No new matter enters by this amendment, and the amendment is only to clarify the claimed subject matter.

**CONCLUSION**

In view of the above, each of the presently pending claims is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. The Examiner is encouraged to contact the undersigned at (202) 942-5186 should any additional information be necessary for allowance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Kristan Lansbery". The signature is fluid and cursive, with the first name "Kristan" and last name "Lansbery" clearly distinguishable.

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